EXHIBIT A

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EDGE PATENT SPECIFICATION PASSAGES ESTABLISHING THAT THE ASSERTED PATENT CLAIMS REQUIRE USE OF ONLY GENERAL PURPOSE COMUTER EQUIPMENT

On Pages 3-4, 7 and 9-10 of its Opposition, Edge identifies the following '629 and '833 claim terms as the basis for its assertion that the claims are directed to "inventive machines" (p. 7):

- **"automated trading system"**
- **"backend computer"**
- **"trader station"**
- **"receiver interface"**
- **"output interface"**
- **"data reference logic"**
- **"decision logic"**
- **"data structure"**
- **"transaction value calculator"**

Nowhere in its Opposition does Edge offer any explanation as to whether or how these claim terms are different from, or exclude, general purpose computer equipment, which courts and the PTO repeatedly have found do not satisfy the principally-instructive "machine-or-transformation" test. Further, Edge offers no specification citations whatsoever to support its assertion that the claim terms are drawn to the requisite *particular* (i.e., not generic, off-the-shelf) machines.

As demonstrated from the following specification passages, the '629 and '833 Patent specifications (which are attached to Edge's Amended Complaint and, thus, may be considered on a 12(b)(6) motion to dismiss) make very clear that, to the extent that the claim terms identified by Edge refer to devices at all (as opposed to software or programming elements), such devices are nothing more than general purpose computer equipment.

"Automated trading system"

- **On its face, this claim term/phrase does not describe or require any specific hardware; this term/phrase only requires that the described claim actions/steps ("trading," "calculating, "submitting," etc.) be done "automatically"**

- **The following specification passages make clear that these "automatic" activities require nothing more than general purpose computers (and related equipment)**

- "For example, user-friendly systems that automatically submit orders without trader interaction, while faster than a human trader, are relatively slow in terms of computer speed due to application and system design. In a typical set-up, trading information received from the exchange is processed by general purpose backend computer equipment." ('629 Patent at 1:52-58; *see also* '833 Patent at 2:1-7)

- "The automated trading system receives and decodes current market information broadcast from the exchange site through a receiver interface. . . . The receiver interface and the output interface may be formed by common equipment and/or data ports." ('629 Patent at 9:26-28, 15:19-21; *see also* '833 Patent at 7:36-38; 19:35-36)

- "For example, theoretical price logic may be implemented by the central processor and memory, and possible other equipment useful in performing fast mathematical calculations, in a general purpose computer." ('833 Patent at 8:60-64)

- "The automated trading system software may run in a text-based environment or a Windows or Windows-like environment. For example, the automated trading system may be run on an operating system, such as VMS, DOS, or LINUX, or in a WINDOWS or similar operating system, which is more user-friendly." ('629 Patent at 9:12-17; *see also* '833 Patent at 7:31-33)

- "To further enhance the response speed of the trader, the trader's computer equipment may be dedicated or substantially dedicated to performing automated trading operations, with limited or minimized overhead permitted for other tasks. Further, the trader's computer equipment assigned to automated trading may be used to process raw trading information received from the exchange." ('629 Patent at 5:66-6:3)

- "Significantly, the backend computer may be remotely supported or controlled by a distant trader station, which permits the trader station to be located virtually anywhere without adversely affecting the response time of the automated trading system. Accordingly, the trader site may be chosen based on considerations such as tax, real estate costs, and quality of life, without having to worry that trader station location will impair the performance of automated trading carried on by backend computer. Trader stations receive information from the exchange site, process that information, and display at least part of it on a monitor. Each trader station typically runs interactive software that enables a trader, among other things, to submit orders and/or quotes to the exchange site. As discussed further below, one or more of the trader stations may additionally be equipped with software for controlling the automated trading functions of backend computer." ('629 Patent at 8:29-46; *see also* '833 Patent at 6:35-52)

- "Local decision-making times of less than 250 microseconds have been achieved in a text-based VMS system run on a backend computer and times of 50-150 milliseconds or less have been achieved on a Windows-based system run on a trader station, depending on the processor load from other tasks." ('629 Patent at 9:20-25)

- "The backend computer should be equipped with a high-speed processor and sufficient memory to efficiently handle automated trade processing." ('629 Patent at 7:61-63; *see also* '833 Patent at 6:1-3)

- "The electronic trading exchange system network includes an exchange site and a plurality of trading sites." ('629 Patent at 6:25-27; *see also* '833 Patent at 4:6-8)

- "The exchange site may be linked to the trading site by one or more communication links. The communication links may be part of a wide area network formed by dedicated communications lines, commonly-accessible communication lines, or a combination thereof. For example, dedicated lines may be strung between the exchange site and one or more of the member trading sites. Alternatively, dedicated lines may be leased from telephone, cable, or other communication network operators. For example, the public switched telephone network may embody the commonly-accessible communication lines. Of course, the communications links may also include, in whole or in part, wireless communications, such as microwave or satellite links." ('629 Patent at 6:39-52; *see also* '833 Patent at 4:20-33)

"Backend Computer," "Trader Station," "Receiver Interface," and "Output Interface,"

- **The following specification passages make clear that the recited "interfaces", "backend computer" and "trader station" are nothing more than general purpose computers (and related apparatuses)**

- "The receiver interface and the output interface may be formed by common equipment and/or data ports." ('629 Patent at 15:19-21; *see also* '833 Patent at 19:35-36)

- "For example, theoretical price logic may be implemented by the central processor and memory, and possible other equipment useful in performing fast mathematical calculations, in a general purpose computer." ('833 Patent at 8:60-64)

- "For example, user-friendly systems that automatically submit orders without trader interaction, while faster than a human trader, are relatively slow in terms of computer speed due to application and system design. In a typical set-up, trading information received from the exchange is processed by general purpose backend computer equipment." ('629 Patent at 1:52-58; *see also* '833 Patent at 2:1-7)

- "Each trader station is typically configured in a very user-friendly, Windows-based environment since the trader will spend long periods of time each day watching and interacting with it." ('629 Patent at 2:5-8; *see also* '833 Patent at 2:21-24)

- "The automated trading system software may run in a text-based environment or a Windows or Windows-like environment. For example, the automated trading system may be run on an operating system, such as VMS, DOS, or LINUX, or in a WINDOWS or similar operating system, which is more user-friendly." ('629 Patent at 9:12-17; *see also* '833 Patent at 7:31-33)

- "Local decision-making times of less than 250 microseconds have been achieved in a text-based VMS system run on a backend computer and times of 50-150 milliseconds or less have been achieved on a Windows based system run on a trader station depending on the processor load from other tasks." ('629 Patent at 9:20-25)

- "Most trader stations in use today rely upon the traders themselves to decide whether to submit an order in response to a trading opportunity presented through the exchange. In this regard, the trading information is received from the exchange, processed, and displayed on a monitor of the trader's station. The trader reads the trading information from the monitor and decides whether or not to submit an order. The trader submits an order by entering instructions into the trader station using a keyboard or mouse." ('629 Patent at 1:40-48; *see also* '833 Patent at 1:53-62)

- "If the trader is comfortable with these specifications, she may then submit this particular hedging order through actions on the keyboard, mouse, gamepad or other input device of trading station 230 (e.g., 20 voice activation equipment)." ('833 Patent at 28:16-20)

- "To further enhance the response speed of the trader, the trader's computer equipment may be dedicated or substantially dedicated to performing automated trading operations, with limited or minimized overhead permitted for other tasks. Further, the trader's computer equipment assigned to automated trading may be used to process raw trading information received from the exchange." ('629 Patent at 5:66-6:3)

- "In one preferred embodiment, backend computer 225 is dedicated or substantially dedicated to performing automated trading-related functions, as discussed in greater detail below. Backend computer 220, rather than backend computer 225, may be assigned trading-related tasks, such as (1) serving as a gateway to communicate market information from the exchange site to trader stations, (2) submitting, deleting, and modifying orders and quotes to exchange site from the trader stations, (3) receiving real-time trade confirmations and end-of-day back office reports, and/or (4) performing risk analysis, position management, and accounting functions." ('629 Patent at 8:1-12; *see also* '833 Patent at 6:7-18)

- "The exchange site need not be limited to equipment provided at a single location, but may be provided in multiple locations linked by a network. Similarly, the trading sites need not be limited to equipment provided at a single location, but may include equipment at multiple locations linked by a network, such as a wide area network (WAN)." ('629 Patent at 6:32-38; *see also* '833 Patent at 4:13-19)

- "In one embodiment, the exchange site may be designed as a local area network (LAN) and include, for example, one or more security routers and one or more back office computers, among other equipment." ('629 Patent at 6:53-56; 20:41-45; *see also* '833 Patent at 4:48-51; 24:56-60)

- "The trading sites may include a LAN architecture having one or more security routers, one or more backend computers, one or more trader stations, and one or more hubs, among other equipment." ('629 Patent at 7:29-32; *see also* '833 Patent at 5:25-28)

- "The backend computer should be equipped with a high-speed processor and sufficient memory to efficiently handle automated trade processing." ('629 Patent at 7:61-63; *see also* '833 Patent at 6:1-3)

- "A backend computer may include the receiver interface, the data reference logic, the decision logic, and the output interface. The first backend computer may operate using a Windows-based operating system or a text-based operating system. A trader station separate from the backend computer may be coupled to the backend computer through a communication link. The trader station may include a graphic user interface to enable a trader to monitor the operation of the backend computer. The trader station may transmit updated data reference information for updating the data reference logic to the backend computer over the communication link. For example, the trader station can calculate the updated data reference information, which the backend computer stores." ('629 Patent at 3:55-4:1).

- "The backend computer may perform the receiving, identifying, and using steps on a Windows-based operating system or on a text-based platform." ('629 Patent at 4:57-59)

- "Backend computer may be configured as a communication server for the trader stations. The exchange often supplies software and/or hardware for the backend computer to facilitate communications with the exchange site. Backend computer handles communications between the trader stations and the back office computers of the exchange. Of course, the trader site may include multiple backend computers. Backend computer may also be equipped with software and/or hardware that facilitates communications with the exchange site." ('629 Patent at 7:43-53)

- "The trader stations may control backend computer remotely through a communication link, for example, a WAN." ('629 Patent at 7:62-65; *see also* '833 Patent at 6:3-5)

- "The trader stations are clients of the backend computer. The trader stations may be tasked with numerous functions, such as (1) receiving and displaying real-time market information, (2) creating and displaying theoretical prices related to market products, (3) composing, submitting, modifying, and deleting orders and 20 quotes, (4) maintaining positions and calculating risk management, to name a few." ('629 Patent at 1:65- 2:5; *see also* '833 Patent at 2:14-21).

- "The trader station may include a graphic user interface to enable a trader to monitor the operation of the backend computer." ('629 Patent at 3:61-63)

- "Significantly, the backend computer may be remotely supported or controlled by a distant trader station, which permits the trader station to be located virtually anywhere without adversely affecting the response time of the automated trading system. Accordingly, the

trader site may be chosen based on considerations such as tax, real estate costs, and quality of life, without having to worry that trader station location will impair the performance of automated trading carried on by backend computer. Trader stations receive information from the exchange site, process that information, and display at least part of it on a monitor. Each trader station typically runs interactive software that enables a trader, among other things, to submit orders and/or quotes to the exchange site. As discussed further below, one or more of the trader stations may additionally be equipped with software for controlling the automated trading functions of backend computer." ('629 Patent at 8:29-46; *see also* '833 Patent at 6:35-52)

"Data Reference Logic," "Decision Logic," "Data Structure," and "Transaction Value Calculator"

- **The following specification passages make clear that these claim elements are merely software/programming elements that are executed on general purpose computers (and related equipment); these elements neither constitute, nor specify use of, any specialized machine or apparatus**

- "For example, theoretical price logic may be implemented by the central processor and memory, and possible other equipment useful in performing fast mathematical calculations, in a general purpose computer." ('833 Patent at 8:60-64)

- "Local decision-making times of less than 250 microseconds have been achieved in a text-based VMS system run on a backend computer and times of 50-150 milliseconds or less have been achieved on a Windows-based system run on a trader station, depending on the processor load from other tasks." ('629 Patent at 9:20-25)

- "The automated trading system software may run in a text-based environment or a Windows or Windows-like environment. For example, the automated trading system may be run on an operating system, such as VMS, DOS, or LINUX, or in a WINDOWS or similar operating system, which is more user-friendly." ('629 Patent at 9:12-17; *see also* '833 Patent at 7:31-33)

- "While the above-embodiments have been described in terms of look-up arrays or tables, it should be understood that data may include or be maintained in other organizational memory constructs consistent with the present invention, for example, linked lists, trees, heaps, hash lists, or some combination, or any other data structure or combinations of data structures useful in implementing a search algorithm." ('629 Patent at 24:21-28; *see also* '833 Patent at 28:60-66)

- "An option look-up table protocol indexes an option data table. The option data table stores information concerning options that may be automatically traded. For simplicity, a two-dimensional table having rows and columns will be described. However, it should be understood that higher-dimension arrays or tables may be used in connection with the present invention. Each row of the option table stores information relevant to a particular

option including, for example, option name, current market option prices, times and quantities of the most recent trades by the trader, maximum order quantity, inputs that may needed to calculate option transaction prices, and whether automated trading is enabled for the option." ('833 Patent at 7:53-65; *see also* '629 Patent at 9:50-60)

- "The look-up table may be a two-dimensional table providing desired price values indexed by item traded and price of the second traded item or an n-dimensional table, where n is 3 or more." ('629 Patent at 4:22-25)

- "The underlying market information for a given security may be indexed in a theoretical price look-up array or table, which may be formed in the memory of backend computer, to identify theoretical buy and sell prices for options associated with the underlying security. While the theoretical price look-up table may constitute a multi-dimensional array or table, a two-dimensional table will be described for purposes of simplicity. It should be understood that data structures other than arrays or tables may be used in connection with the present invention. The theoretical price look-up table may be updated by a trading station via trading station interface. In one embodiment, the trader station supplies the content of the theoretical price look-up table to the automated trading system." ('629 Patent at 10:37-51)

- "Similar to the option look-up table, the theoretical price look-up table may be organized in several ways. For example, all theoretical buy prices for a given price (such as bid price or ask price) of an underlying security maybe provided in a single column of a look-up table, with a separate look-up table provided for theoretical sell prices. Alternatively, the look-up table may index both a theoretical buy price and a theoretical sell price. The theoretical price look-up table may be segmented or multidimensional. Moreover, the theoretical price look-up table may be combined with, a portion of, or linked to option look-up table." ('629 Patent at 11:64-67;12:1-8; *see also* '833 Patent 10:20-30)

- "When created, the look-up table may be centered about the current price of the underlying security. Each row of the look-up table provides theoretical prices for a given strike price. As illustrated, the look-up table includes twenty (20) rows having strike values ranging from 50.0 to 97.5, in increments of 2.5. The strike values correspond to individual options available for trading as determined by the exchange. The trader may limit the set of options to those he/she actually trades, and consequently can enable them for automatic trading, individually or in predefined groups. The columns of the look-up table provide theoretical prices for a given price of the underlying security." ('629 Patent at 15:27-39)

- "Of course, rather than calculating the theoretical values in real time, a pre-calculated look-up table of theoretical values may be used, as described in U.S. application Ser. No. 09/417,774 to Marynowksi et al., filed on Oct. 14, 1999, and expressly incorporated herein by reference. Pre-calculating certain parts of the mathematical models reduces computation times without compromising the precision of the models." ('833 Patent at 13:26-34)